SOIL RESOURCES

Purpose

This chapter identifies resource management goals, policies, and strategies that:

1) preserve and protect soil resources from degradation or loss by wind and water erosion,
2) preserve and protect watershed function and ecological health through soil conservation, and
3) protect agricultural soils from conversion to urban and residential uses.

"Everything is built on soils" – Cal Poly Earth and Soil Science Department

Introduction

The role that soils play in county watersheds, through capturing, storing and filtering of water, supporting vegetation and producing valuable food and fiber crops, are directly linked to the future of agriculture and the environment, and hence to the vitality of our local economy. Soil loss and degradation from the natural forces of wind and rainfall can be accelerated greatly by urbanization, inappropriate removal of vegetation, overgrazing, cultivation on steep slopes and development without regard to sound conservation practices.

Relationship to Other Elements, Plans, and Programs

Because of the direct connection between soils resources and watershed function, agricultural viability, ecological function, and water quantity and quality, many policies addressing soil resource management can also be found within the Water Resources and

SOIL RESOURCES

Biological Resources chapters of this Element, as well as in the Agriculture Element, and are referenced herein.

We will recognize success when…

- *Effective soil conservation practices are employed on private and public lands throughout the county.*
- *Conversion of the most important agricultural soils to non-agricultural uses is minimized and fully mitigated.*
- *Low Impact Development measures are included in all private and public*

Major Issues

The loss of soil resources has significant economic and environmental consequences. These can include reduced agricultural productivity, loss of watershed and ecological function, and reduced air and water quality.

Goals, Policies, and Implementation Strategies

The intent of the following goals, policies, and implementation strategies is to protect and preserve soils, and recognize their critical role in the county's watersheds. The soils resources in San Luis Obispo County are essential for preserving economic and environmental vitality and nourishing ecological habitats. They are also essential for the production of food and fiber and other agricultural products. (Also refer to Figure SL-1, Countywide Soils Map.)

TABLE SL-1
GOALS FOR SOIL RESOURCES

Goal SL 1	Soils will be protected from wind and water erosion, particularly that caused by poor soil management practices.
Goal SL 2	Watershed and ecological function will be maintained through soil conservation.
Goal SL 3	Important agricultural soils will be conserved.

GOAL 1 SOILS WILL BE PROTECTED FROM WIND AND WATER EROSION, PARTICULARLY THAT CAUSED BY POOR SOIL MANAGEMENT PRACTICES.

Policy SL 1.1 Prevent Loss of Topsoil in All Land Uses

Minimize the loss of topsoil by encouraging broad-based cooperation between property owners, agricultural operators, agencies, and organizations that will lead to effective soil conservation practices on farmlands and on County-controlled properties. (Also refer to Policy AG 9 in the Agricultural Element.) (AGP9) (Refer to **Figure SL-1** and **SL-2** Countywide Soils Map)

- ***Implementation Strategy SL 1.1.1 Soil erosion: private lands***
  Encourage landowners to participate in programs that reduce soil erosion and maintain soil productivity. The County Department of Agriculture should participate in efforts to educate property owners and agricultural operators about soil conservation through programs developed cooperatively by agencies such as USDA, Natural Resources Conservation Service, Resource Conservation Districts, University of California Cooperative Extension, and other technical service providers.

- ***Implementation Strategy SL 1.1.2 Soil erosion: public lands***
  Assure that roads and drainage systems on County-controlled properties and facilities do not negatively impact other land uses, including agricultural lands, and that the roads and drainage systems are properly maintained.

Policy SL 1.2 Promote Soil Conservation Practices in All Land Uses

Require erosion and sediment control practices during development or other soil-disturbing activities on steep slopes and ridgelines. These practices should disperse storm-water so that it infiltrates the soil rather than running off, and protect downslope areas from erosion.

***Soil conservation** is the 1) protection of the soil against physical loss by erosion or against chemical deterioration; that is, excessive loss of fertility by either natural or artificial means. 2) a combination of all management and land use methods that safeguard the soil against depletion or deterioration by natural or by human-induced factors.- Soil Science Society of America*

◇ ***Implementation Strategy SL 1.2.1 Retain natural vegetation and topography***

Retain natural vegetation and topography to the maximum extent feasible for all discretionary projects adjacent to blue line streams or in areas designated with at least moderate erosion potential.

◇ ***Implementation Strategy SL 1.2.2 Restoration of degraded areas***

Require proposed discretionary development to restore degraded and eroded areas where feasible by replanting with native vegetation and using other measures approved by soil conservation agencies.

Policy SL 1.3 Minimize Erosion associated with New Development

Avoid development, including roads and driveways, on the steeper portions of a site except when necessary to avoid flood hazards, protect prime soils, and protect sensitive biological and other resources. Avoid grading and site disturbance activities on slopes over 30%. Minimize site disturbance and protect existing vegetation as much as possible.

The soil is the great connector of our lives, the source and destination of all.

—Wendell Berry, 1977

◇ ***Implementation Strategy SL 1.3.1 Low Impact Development (LID)***

Implement Low Impact development (LID) for all new public and private projects. (Also refer to Water Resource Policy WR 4.7.)

◇ ***Implementation Strategy SL 1.3.2 Land Use Ordinance amendment***

Amend the Land Use Ordinance to require a variance to grade on slopes over 30%.

GOAL 2 WATERSHEDS AND ECOLOGICAL FUNCTION WILL BE MAINTAINED THROUGH SOIL CONSERVATION.

Policy SL 2.1 Protect Watersheds and Aquifer Recharge Areas

Give high priority to protecting watersheds, aquifer-recharge areas, and natural drainage systems when reviewing applications for discretionary development. (Also refer to Water Resource Policies WR 2.4, 3.1, 3.2. 3.3, 3.4, 3.5, 5.1, 5.6, 6.4, 6.5, 6.6, 6.7 and BR 1.5, 2.7, 4.1, 4.5, 4.6, 6.1 and 7.7.)

◇ ***Implementation Strategy SL 2.1.1 Interagency coordination for mapping***

Cooperate with agencies such as the Central Coast Regional Water Quality Control Board, the California Department of Water Resources, the County Public Works Department, and other County departments to strengthen existing digital map databases of watersheds and aquifer recharge areas. Examples of such databases include the Central Coast Ambient Monitoring Program's CCAMP Database Browser and the California Department of Water Resources California Groundwater Bulletin 118

◇ ***Implementation Strategy SL 2.1.2 Watershed education for landowners***

Educate landowners about preserving watershed function, retaining natural drainage areas, and implementing low impact development practices.

◇ ***Implementation Strategy SL 2.1.3 Protect natural stream functions***

Encourage the use of soil conservation practices in development designs near streams and stream crossings in order to protect natural stream functions. (Also refer to Biological resource Policy BR 6.)

◇ ***Implementation Strategy SL 2.1.4 Coordinated watershed restoration***

Encourage the coordination of watershed restoration activities and permit streamlining efforts between the County, state and

*An **aquifer means** is an underground, water-bearing layer of earth, porous rock, sand, or gravel, through which water can seep or be held in natural storage.*

***Watershed function** refers to the ecological and hydrologic function of a watershed includes capture, storage, and safe release of water, providing conditions for nutrient cycles and habitat for flora and fauna.*

***Prime Farmland is** land that has the best combination of physical and chemical characteristics for the production of crops. It is the combination of soil properties, growing seasons, and moisture supply needed to produce sustained high yields of crops.*

federal agencies, and other groups for watershed restoration and enhancement projects where they support soil conservation practices.

GOAL 3

IMPORTANT AGRICULTURAL SOILS WILL BE CONSERVED.

Policy SL 3.1 Conserve Important Agricultural Soils

Conserve important agricultural soils as mapped by the USDA Natural Resources Conservation Service, including Prime Farmland, Soil of Statewide Importance, Other Productive Soils, and Highly Productive Rangeland Soils. (Also refer to glossary definitions; specific soil map units meeting these definitions are listed in **Appendix 8** and mapped in **Figures SL-3** and **SL-5**.)

◇ ***Implementation Strategy SL 3.1.1 Non-agricultural structures on Important Agricultural Soils***

Limit placement of non-agricultural structures and impermeable surfaces on Important Agricultural Soils of San Luis Obispo County. (Also refer to **Appendix 8** and **Figures SL-3** and **SL-5**.)

◇ ***Implementation Strategy SL 3.1.2 Important Agricultural Soils database***

Update the Department of Planning and Building's digital map database of soils classified as Important Agricultural Soils of San Luis Obispo County. (Also refer to **Appendix 8** and **Figures SL-3** and **SL-5**.)

◇ ***Implementation Strategy SL 3.1.3 Land Use Ordinance Amendment: Important Agricultural Soils***

Coordinate with the Agricultural Commissioner's Office to propose amendments to the Land Use Element and Land Use Ordinance to revise the list of allowable uses in the Agriculture land use category and limit placement of structures on Important Agricultural Soils of San Luis Obispo County as identified in **Appendix 8** and **Figures SL-3** and **SL-5)**.

"The nation that destroys its soil, destroys itself." Franklin Delano Roosevelt

◇ ***Implementation Strategy SL 3.1.4 Coordinate discretionary project review with RCD***
Coordinate with Resource Conservation Districts (RCDs) and local agencies during the discretionary review of development projects that may affect important soil resources.

◇ ***Implementation Strategy SL 3.1.5 Mitigation of impacts to Important Agricultural Soils***
Establish mitigation strategies for loss of Important Agricultural Soils in an agricultural land conservation easement.

Agricultural soils in the county.

FIGURE SL-1
COUNTYWIDE SOILS MAP

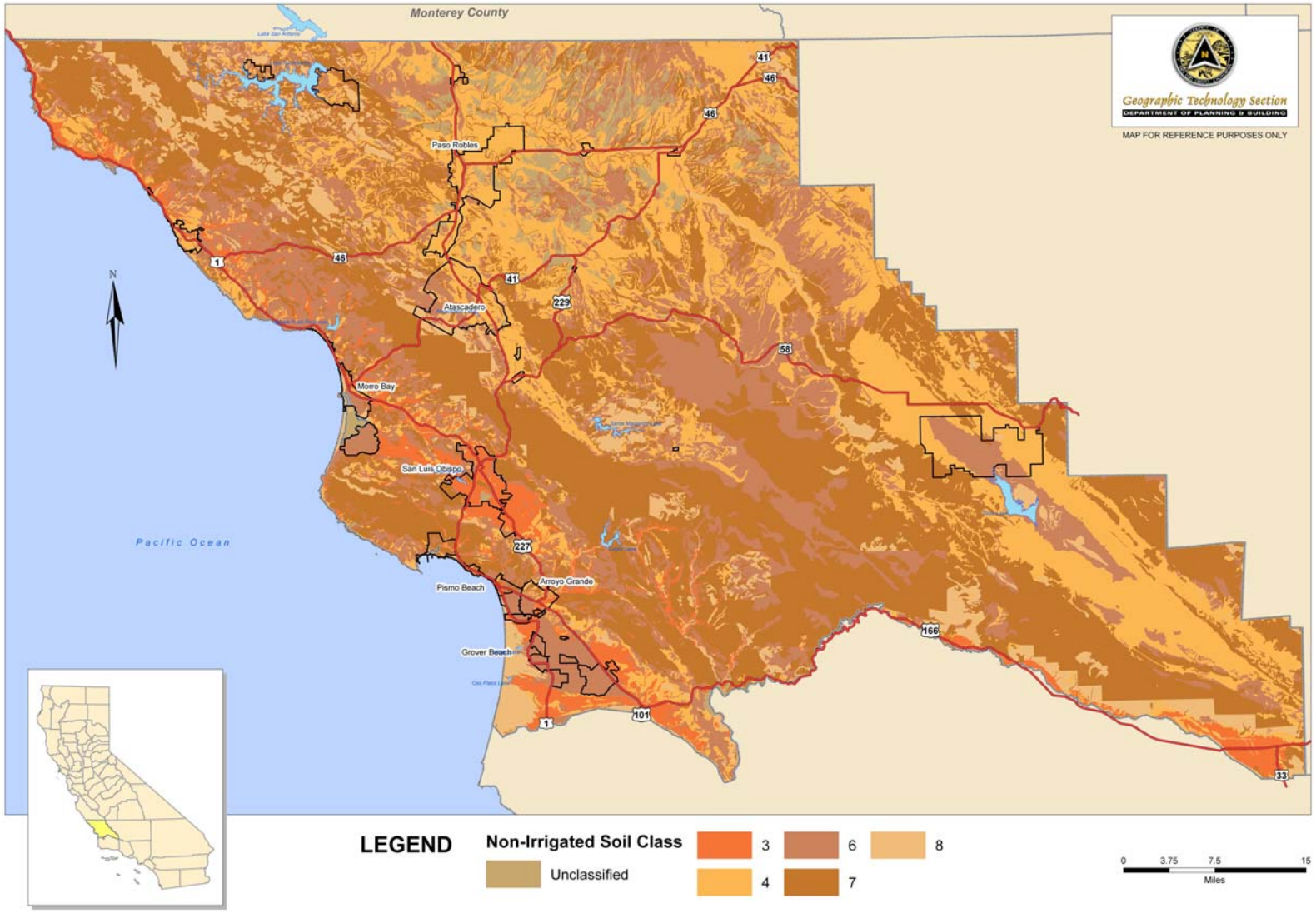


FIGURE SL-2
COUNTYWIDE SOILS MAP – DETAILED PERSPECTIVE

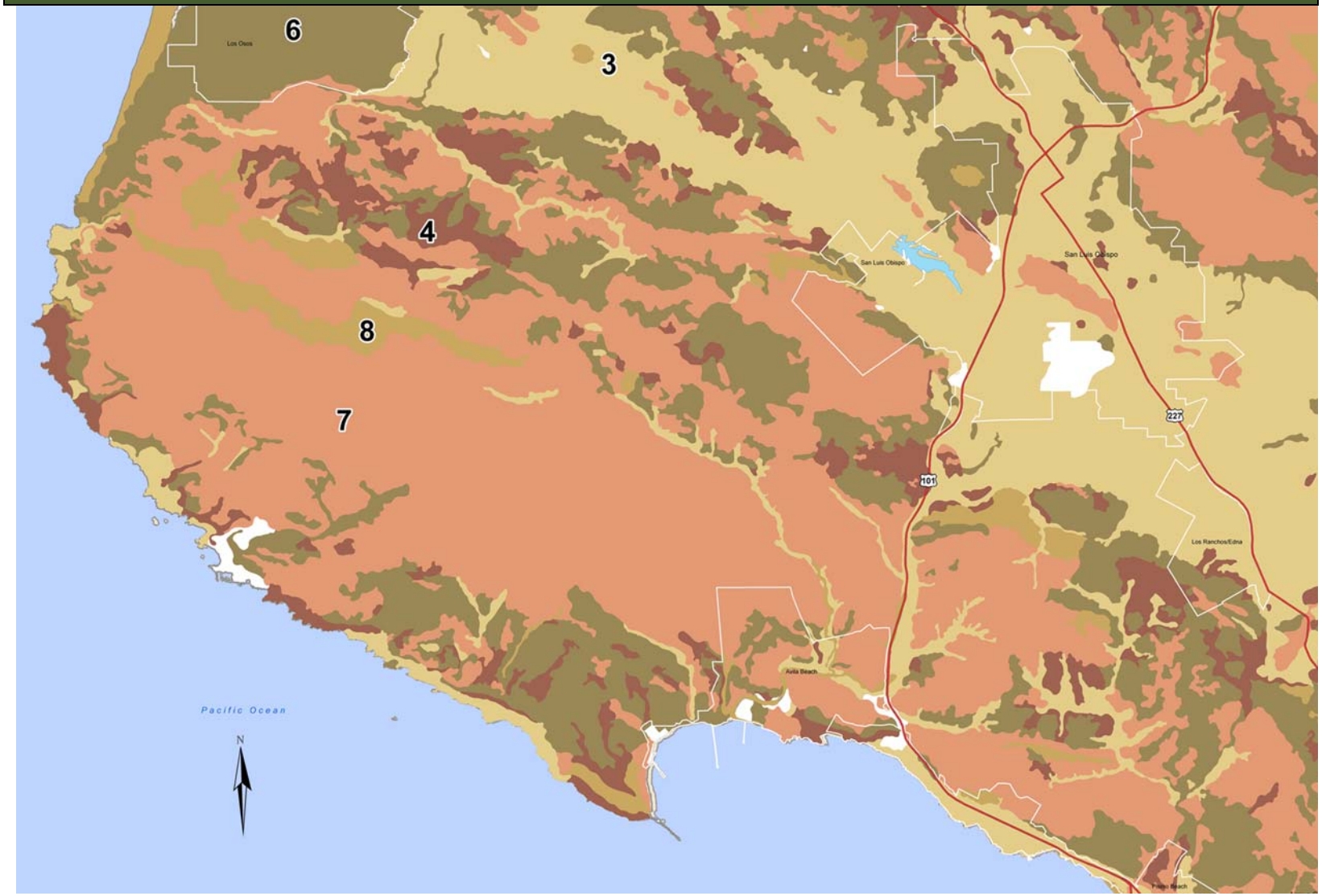


FIGURE SL-3
COUNTYWIDE PRIME FARMLANDS SOILS MAP

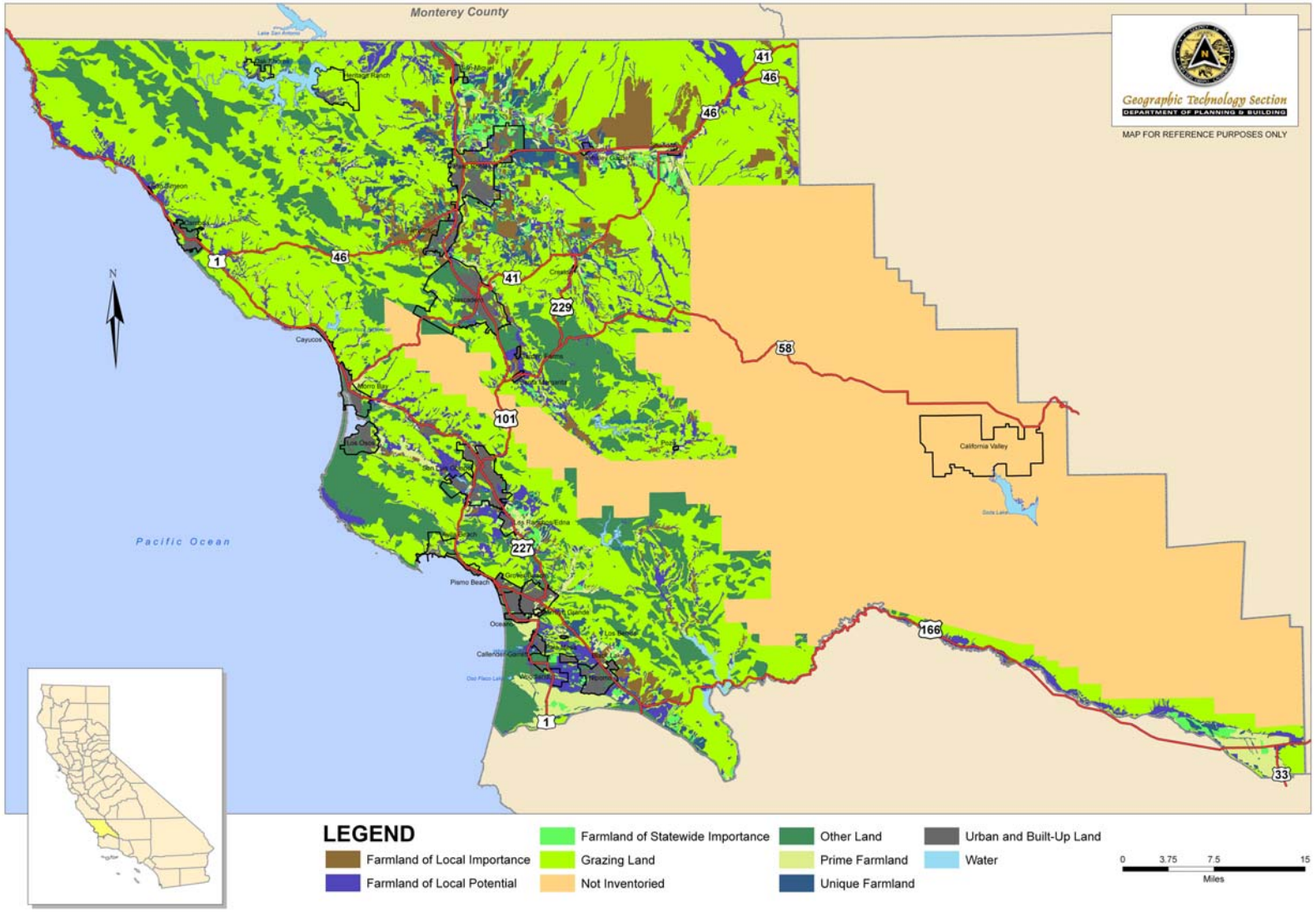


FIGURE SL-4
COUNTYWIDE PRIME FARMLANDS SOILS MAP – DETAILED PERSPECTIVE

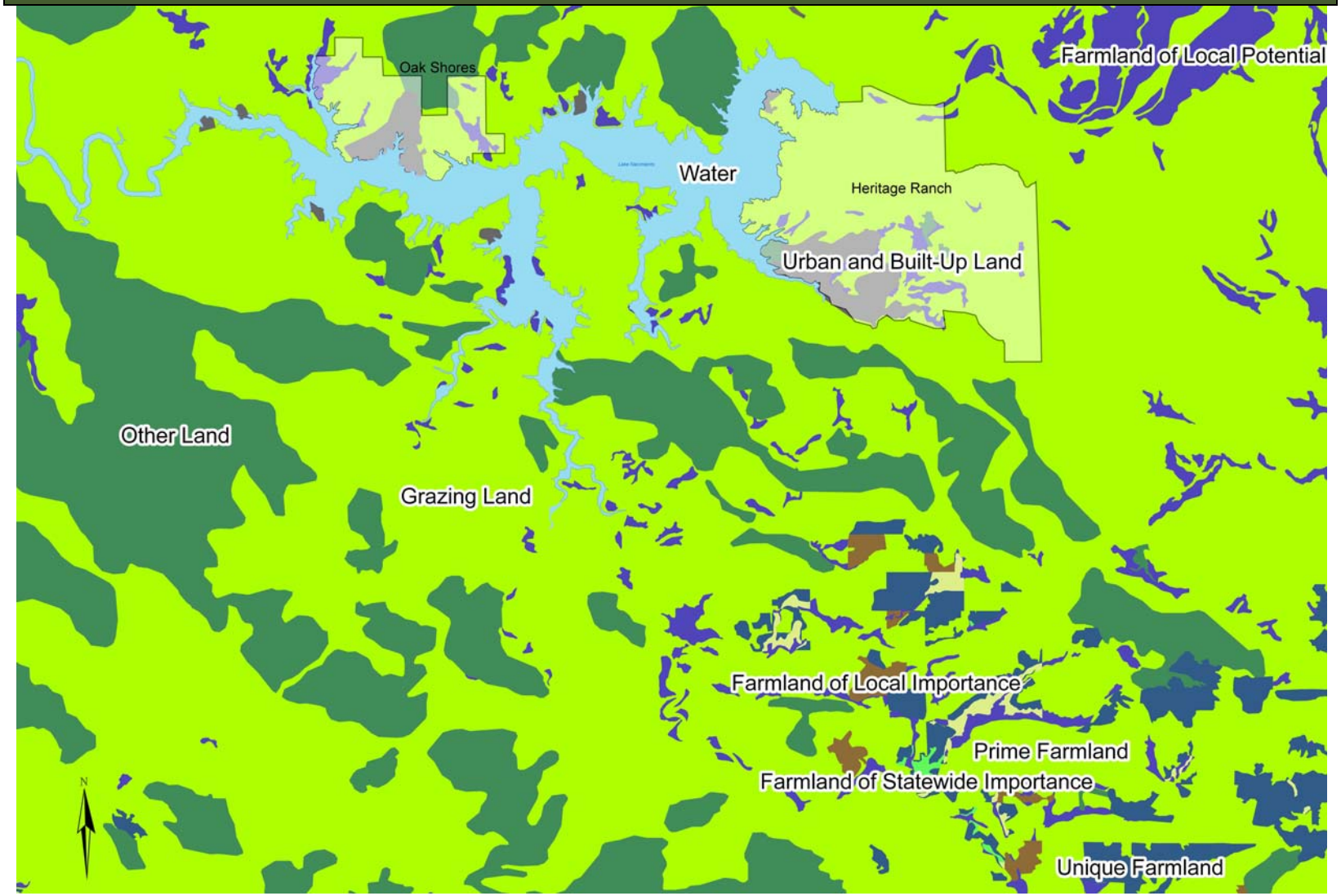
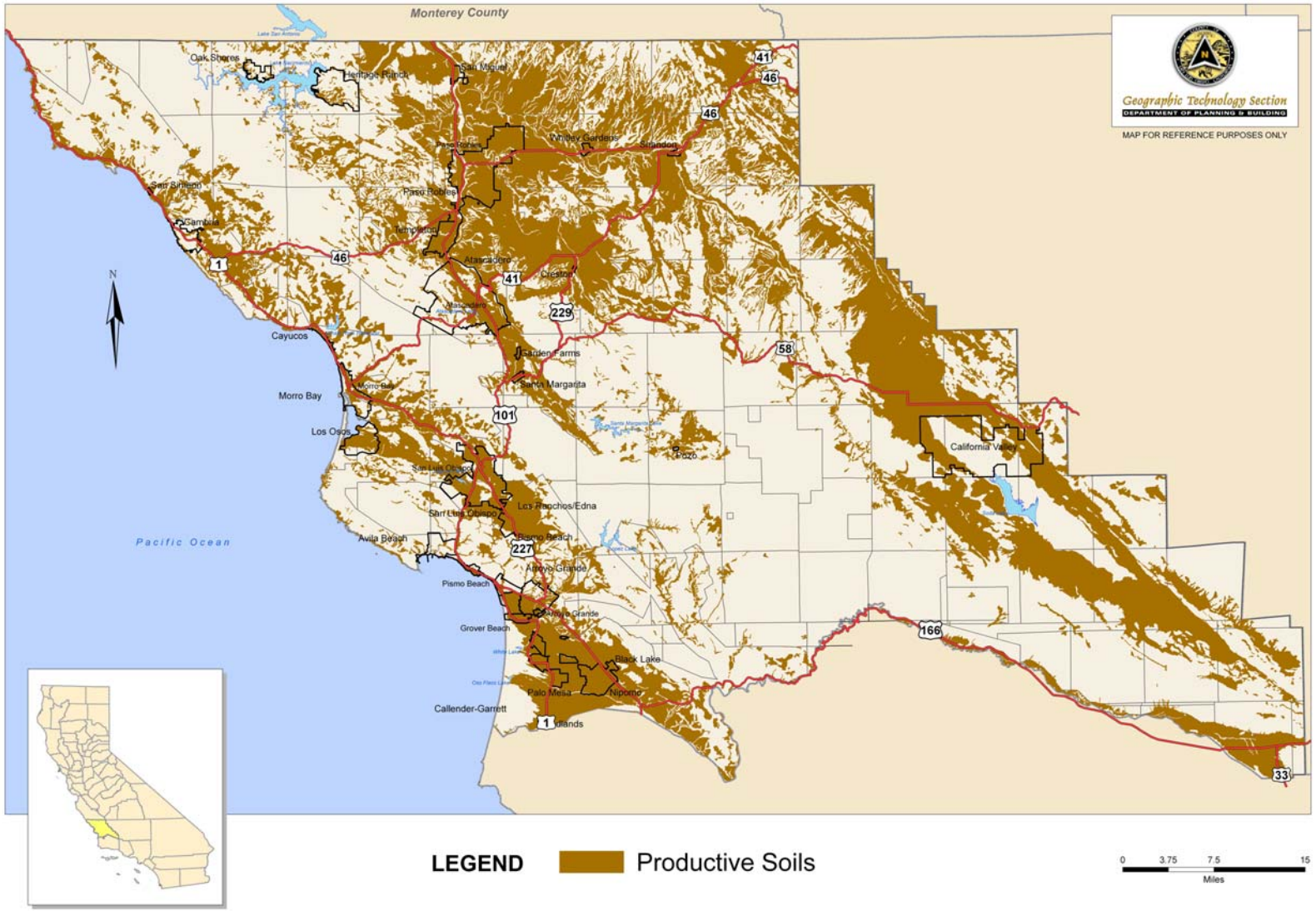


FIGURE SL-5
PRODUCTIVE SOILS OF SAN LUIS OBISPO COUNTY



Summary of Implementation Strategies

For each implementation strategy described in this chapter, the following table (**Table SL-2**) summarizes the County department or other agency that has primary responsibility for carrying out that strategy. In addition, the table summarizes the priority, estimated year of initiation, and potential source of funding of each strategy. The actual timeframe for implementing the strategies is dependent upon the availability of adequate staff and funding.

TABLE SL-2
SOIL RESOURCES IMPLEMENTATION

Implementation Strategies	Department or Agnecy[1]	Priority	Timeframe to Start	Possible Funding Sources[2]
IS SL 1.1.1 Soil erosion: private lands	AG, RCD, SCS, UC Ext., PB	Medium	2011	DB , grants
IS SL 1.1.2 Soil erosion: public lands	PW, GS	High	Immediately	DB
IS SL 1.2.1 Low Impact Development (LID)	PB, PW	High	Immediately	N/A
IS SL 1.2.2 Soil Conservation adjacent to streams	PB	High	Immediately	N/A
IS SL 1.3.1 Low Impact Development (LID)	PB, PW, GS	High	Immediately	DB , grant
IS SL 1.3.2 Land Use Ordinance amendment	PB	Medium	2012	DB
IS SL 2.1.1 Interagency coordination for mapping	PB, PW, RWQCB, DWR	Medium	2010	DB
IS SL 2.1.2 Watershed education for landowners	PB, PW	Medium	2011	DB
IS SL 2.1.3 Protect natural stream functions	PB, PW	Medium	Immediately	DB
IS SL 2.1.4 Coordinated watershed restoration	PB, PW, RCD	Medium	2011	DB
IS SL 3.1.1 Non-agricultural structures on Important Agricultural Soils	PB, AG	Medium	Immediately	N/A

Implementation Strategies	Department or Agnecy[1]	Priority	Timeframe to Start	Possible Funding Sources[2]
IS SL 3.1.2 Important Agricultural Soils database	PB, AG	High	2010	DB
IS SL 3.1.3 Land Use Ordinance Amendment: Important Agricultural Soils	PB, AG	High	2011	DB
IS SL 3.1.4 Coordinate discretionary project review with RCD	PB	High	Immediately	N/A
IS SL 3.1.5 Mitigation of impacts to Important Agricultural Soils	PB, AG	High	2011	DB

Notes:
1 Department abbreviations:
AG = County Department of Agriculture
EH = County Environmental Health Services Division
GS = County General Services Agency
PB = County Department of Planning and Building
PW = County Department of Public Works
RCD =Resource Conservation Districts
UCext =University of California, Cooperative Extension
2 Funding source abbreviations:
GF =General Fund
DB =Planning and Building Department Budget
Source: Department of Planning and Building, March 2009.